IFW RCE/1756\$  
Revised PTO/SB/30 (02/01)**REQUEST  
for  
CONTINUED EXAMINATION (RCE)  
TRANSMITTAL**

Subsection (b) of 35 U.S.C. § 132, effective on May 29, 2000,  
provided for continued examination of a utility or plant application  
filed on or after June 8, 1995.

See the American Inventors Protection Act of 1999 (AIPA).

Application Number	09/741,434
Filing Date	December 21, 2000
First Named Inventor	Takashi FUKUDA
Group Art Unit	1756
Examiner Name	Martin Angebrannt
Attorney Docket Number	2000_1743A
Confirmation No.	5280

This is a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114 of the above-identified application.

**NOTE:** 37 C.F.R. § 1.114 is effective on May 29, 2000. If the above-identified application was filed prior to May 29, 2000, applicant may wish to consider filing a continued prosecution application (CPA) under 37 C.F.R. § 1.53(d) (PTO/SB/29) instead of a RCE to be eligible for the patent term adjustment provisions of the AIPA. See Changes to Application Examination and Provisional Application Practice, Final Rule, 65 Fed. Reg. 50092 (Aug. 16, 2000); Interim Rule, 65 Fed. Reg. 14865 (Mar. 20, 2000), 1233 Off. Gaz. Pat. Office 47 (Apr. 11, 2000), which established RCE practice.

1. Submission required under 37 C.F.R. § 1.114

a. ☒ Previously submitted:

- i. ☒ Please enter and consider the amendment(s)/reply under 37 C.F.R. § 1.116 previously filed on April 26, 2004
- ii. ☐ Please consider the arguments in the Appeal Brief or Reply Brief previously filed on
- iii. ☐ Other

b. ☒ Enclosed:

- i. ☒ Amendment/Reply
- ii. ☐ Affidavit(s)/Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other

2. Miscellaneous

a. ☐ Suspension of action on the above-identified application is required under 37 C.F.R. § 1.103(c) for a period of months. (period of suspension shall not exceed 3 months; Fee under 37 C.F.R. § 1.17(i) required).

b. ☐ Other

3. Fees (The RCE fee under 37 C.F.R. § 1.17(e) is required by 37 C.F.R. § 1.114 when the RCE is filed.)

a. ☐ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No.

- i. ☐ RCE fee required under 37 C.F.R. § 1.17(e)
- ii. ☐ Extension of time fee (37 C.F.R. § 1.136 and § 1.17)
- iii. ☐ Other

b. ☒ Check in the amount of \$880.00 enclosed

4. CORRESPONDENCE ADDRESS

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By: 

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : **Confirmation No. 5280**  
Takashi FUKUDA et al. : Docket No. 2000\_1743A  
Serial No. 09/741,434 : Group Art Unit 1756  
Filed December 21, 2000 : Examiner M. Angebranndt

INFORMATION RECORDING  
METHOD

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**SUBMISSION UNDER 37 C.F.R. 1.114**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In the Advisory Action dated May 12, 2004, in paragraph 5, the Examiner's concern appears to be on the way by which the irradiation light participates in the improvement of the recording velocity by means of plasticization of the polymeric system in the present invention including, for example, the difference between light irradiation and thermal heating.

As is pointed out in the rejection, the light is utilized in the present invention for controlling the orientation of the polymeric molecules.

A presumable mechanism therefore involves the following three aspects:

- 1) The light induces an isomerization reaction of the molecules. Different from the disturbance of the state of molecular orientation by excitation due to thermal vibrations, the energy of light is utilized for producing a structural isomer (cis-structure).
- 2) The molecules in the cis-structure induced by optical isomerization spontaneously regain, at room temperature, the more stable trans-structure, i.e. the initial structure.

3) In the course of long repetition of the above-mentioned cis-trans isomerization, the polymer molecules are brought into molecular orientation, statistically, with the longer axes of the molecules in the trans-structure lying on the plane of electric field of the irradiating bias light.

Thus, the orientation of the polymer molecules is controlled by the light in the above-described process to accomplish, by the bias light irradiation, a specific state of molecular orientation which can never be obtained by mere thermal heating. The ineffectiveness of thermal heating for the plasticization of the polymer system must be emphasized.

When thermal heating of the polymeric layer is conducted by applying thermal energy to the substrate, for example, it is a rather difficult matter to ensure uniformity of heating throughout the polymer layer since a polymeric material is generally not a good heat conductor. This problem can readily be solved by the present invention because the bias light irradiation uniformly reaches the depth of the polymer layer to accomplish uniform plasticization of the polymer layer.


For the foregoing reasons, it is apparent that the rejection on prior art in the Final Rejection is untenable and should be withdrawn.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Takashi FUKUDA et al.

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